Vol. 63, pp. 147-154 December 29, 1950

PROCEEDINGS
OF THE
BIOLOGICAL INSTITUTE OF WASHINGTON

SOME DIPLOPODS FROM PUERTO RICO

By Ralph V. Chamberlin

The millipeds listed or described in this paper were collected by J. A. Rivero, of the University of Puerto Rico, aided in some cases by J. B. Ramos and Sr. Maldonado. The collection was turned over to me for identification by Sr. Rivero, who gave me permission to retain types of the new forms in my collection at the University of Utah.

POLYXENIDAE

Lophoproctus sp.

Locality.—Villa de Guilarte.

One specimen 3.5 mm. long (exclusive of setae), too badly rubbed to permit of accurate specific determination, was taken October 9, 1949, by J. A. Rivero and Sr. Maldonado.

GLOMERIDESMIDAE

Glomeridesmus riveroi, new species

Description.—A smaller species than any previously reported from the West Indies, the length being mostly near 7.5 mm.

The dorsum is black, with a series of geminate white spots along the middorsal line, and on each side ectad of this a series of single spots and also a submarginal series of spots. Caudal tergite mostly white. Differing from the notably larger *G. trinidadensis* Loomis in having the head blackish over the median area, and whitish or yellowish along the caudal border and lateral and clypeal areas. Antennae dusky over whitish. Legs and ventral surface whitish.

The posterior corners of most of the tergites subrectangular but on the posterior tergites produced into an acute tooth. Differing from *G. pectinatus,* described from El Yunque, P. R., in having the caudal margin of the pleurites smooth, not at all pectinate or setiferous.

Penes of the male of the usual form, extending caudad to the seventh or eighth pair of legs.

Locality.—Toro Negro, Villalba.

Types.—Many specimens taken on October 11, 1946.

Glomeridesmus adjuntus, new species

Description.—Differing in coloration from the preceding species in having the antennae entirely without dusky pigment, and especially in having the lower lateral series of light dots replaced by a continuous, broader, submarginal light stripe.

Posterior margins of pleurites not setose or pectinate. Posterior tergites with inferocaudal corners, produced into a slight acute tooth,

mesad of which the margin shows a rather narrow concavity, the tooth much smaller than in *riveroi*.

Length, 7 mm.

Locality.—Adjuntas.

Types.—Four specimens taken in July, 1947.

POLYESMIDAE

Cryptogonodesmus clarus, new species

Description.—A much larger form than *C. rubellus*, known from Haiti and Dominica, and *C. darlingtoni*, known from Dominica.

It is brown in color. with head and ventral surface lighter. It differs from *C. darlingtoni* in having the lateral margins of the keels conspicuously dentate, and in having the caudal corners apparently more acutely and strongly produced.

Tergites with tubercles of middle and posterior rows conspicuously and separately elevated, those of the anterior row less strongly developed. The lateral margins of the non-poriferous keels with three stout setiferous teeth, the poriferous keels with four, in each case counting the acutely produced one at posterior corner. Pores large and definitely dorsal in position, opening at the base of the penult marginal tooth. On caudal margin of keels a conspicuous tooth at proximal end.

Length, 8 mm.

Locality.—Toro Negro, Villalba.

Types.—Three females taken by Rivero and Ramos, October 11, 1946.

CRYPTODESMIDAE

Tridesmus guilarteus, new species

Description.—The adult female type has the dorsum essentially black, with antennae and legs yellowish. The dorsum of a young specimen is brown, with keels more yellowish and legs and antennae light yellow to somewhat whitish.

The collum with the typical twelve radiating border areas, with the margin correspondingly weakly scalloped.

The carinae of the following tergites, poriferous as well as non-poriferous, having the lateral border divided into three areas, excepting the fifteenth to nineteenth inclusive in which the border is divided into four areas. On the median dorsal area are four tubercles which cannot properly be called transverse as described by Silvestri for his species *portoricensis*, nor are those of the anterior pair noticeably larger than the others. In line with the two tubercles on each side the corresponding scallops on the posterior border tend also to be somewhat elevated and tubercle-like, giving thus a series of three tubercles each side of the median line. Laterad from these tubercles on each side are two tubercles of which the anterior is farther laterad than the posterior one. On some of the tergites there is found another tubercle antero-laterad from the two last mentioned.

Length of female holotype, about 8.5 mm.; length of an immature specimen of eighteen segments, 6.7 mm.

Locality.—Villa de Guilarte.

Types.—One adult female and one immature specimen taken October 9, 1948, by Maldonado and Rivero.

Remarks.—This species differs from *portoricensis* in having the keels of the fifth segment three- instead of two-lobed, and seemingly in the form and development of the dorsal tubercles. It also appears from Silvestri's statement that *portoricensis* has keels sixteen to nineteen four-lobed, with the fifteenth not four-lobed as in the present species. Cook's note on *sectilis*, the generotype, is too brief and general in character to permit significant comparison.

Iomus recentus, new species

Description.—The collum differing from that of *I. incisus* Cook, the generotype, in being distinctly, though only slightly, scalloped, not with a single notch near each lateral corner as indicated for *incisus*. In this respect *recentus* agrees with the much larger *I. platanus*, but differs from the latter in having the four dorsal rows of tubercles equidistant, instead of having the two more median rows distinctly nearer to each other than to the lateral rows.

A peculiarity in the color pattern, not mentioned in the published descriptions of the other species, is that the basal portion of the under surface of the keels, with adjacent portion of the sides, remain light or colorless, leaving a longitudinal black stripe ectad of the bases of the legs. The entire ventral surface of the first four keels black, but this color not extending across sternite of the first segment as described for *incisus*, the color, however, running across the caudal border of the third segment.

Length, 7.5 mm.; width, 2 mm.

Locality.—Toro Negro, Villalba.

Type.—One adult female taken by Rivero and Ramos, October 11, 1946.

Remarks.—Smaller form than species previously described.

Genus **LIOMUS**, new

Description.—A genus near *Iomus* in general form and structure, similarly broad and widely rounded at the ends. It differs in having the incisions between the lobes of the keels narrower, with marginal opening often showing the lobes in contact or nearly so, the lobes themselves truncate rather than rounded. Incisions of anterior border shallower and less pronounced. A conspicuous difference from *Iomus* is the lack of definite series of dorsal tubercles, represented only on the nineteenth tergite by a pair of low ridges.

Generotype.—Liomus albanus, new species.

Liomus albanus, new species

Description.—Dorsum variegated with brown and light brown or yellowish; a light median dorsal stripe bisected by a dark, often deltoid, darker mark on each tergite; the sides of dorsum brown, broken by lighter spots or areas; the keels lighter brown, with margins of incisions blackish from accumulated dirt. Ventral surface light, darker and brownish just outside the bases of legs. Head dark brown over the vertex, but white elsewhere. Antennae and legs white.

Antennae geniculate between the third and fourth joints; fifth article

abruptly crassate, much thicker than fourth, sixth, and seventh articles.

Collum with anterior margin evenly convex, the border showing ten long, radiating areas, but the margin with corresponding dividing notches scarcely or not at all evident; convex dorsal surface showing some slightly elevated or weakly separated areas, of which there are four in front of caudal margin and six in front and laterad of these, the lateral areas larger than the median.

Keels of the second tergite with lateral margins continuing evenly the curve of the collum as shown in fig. 1, which also shows the features of the lobes. Full width of tergites attained at the fifth segment. The features of the keels of the middle segments are indicated in fig. 2, representing the keel of the eighth segment.

Gonopods of the male as shown in fig. 3.

Length of the female allotype, 8 mm., width, 2 mm., the male a little smaller.

Localities.—Toro Negro, Villalba.

Maricao Insular Forest. One adult female and two young specimens taken September 25, 1948.

Ajuntas. A female differing from the other specimens in not having the median dorsal stripe geminate except at anterior and posterior ends.

Types.—Six specimens, including one adult male, taken October 11, by Rivero and Ramos.

Liomus obscurus, new species

Description.—A smaller form than *albanus*, from which it seems to differ conspicuously in lacking the median dorsal germinate light stripe; the brown coloration extending over the entire dorsal area between the lateral light areas.

The sixth article of the antennae is thicker relatively to the fifth than in *albanus*.

The collum differs in having the margin weakly, but more definitely, scalloped than in the other form.

Length, 6.2 mm.; width, 1.5 mm.

Locality.—Maricao Insular Forest.

Type.—One female taken September 25, 1948.

RHINOCRIDAE

Rhinocricus arboreus (Saussure)

Julus arboreus Saussure, 1859, Linn. Ent., Vol. 13, p. 331; 1860, Mem. Mex. Myr., p. 98, fig. 28.

Spirobolus (*Rhinocricus*) *arboreus* Karsch, 1881, Zeit. Naturwiss., ser. 3, vol. 6, p. 8.

Rhinocricus arboreus Pocock, 1894, Journ. Linn. Soc., vol. 24, p. 493, pl. 38, fig. 4.

Locality.—Maricao Insular Forest. One female taken September 25, 1948.

SPIROBOLIDAE

Microspirobolus insularis Silvestri

Microspirobolus insularis Silvestri, 1908, Bull. Amer. Museum Nat. Hist., vol. 24, p. 572, fig. VII, 1 and 2.

Locality.—Adjuntas. One female taken in July, 1947. Maricao Insular Forest. One female taken September 23, 1948.

Microspirobolus marmoratus Silvestri

Microspirobolus marmoratus Silvestri, 1908, Bull. Amer. Mus. Nat. Hist., vol. 24, p. 57, figs. VI, 1-6.

Locality.—Toro Negro, Villalba. Two specimens taken October 11, 1946, by Rivero and Ramos.

Microspirobolus mediolus, new species

Description.—Body in general black. Antennae brown, legs reddish brown to clearer red.

Head smooth, the median sulcus distinct across vertex, then interrupted between antennae as usual and then deeply impressed down to labral margin. Clypal foveolae 4-4. Eyes composed of about 24 conspicuously developed ocelli.

Collum extended below on a level with the second tergite, the lower end free; smooth, the lower margining sulcus extending up the anterior side to the level of the eye.

Subsequent tergites with the segmental sulcus distinctly impressed and smooth throughout; tergites smooth dorsally and laterally, the metazonites crossed beneath with the usual series of deep longitudinal striae. Repugnatorial pores conspicuous, located far behind the sulcus and closer to the caudal margin than to the sulcus.

Anal tergite smooth, caudally rounded, exceeded by the valves. Valves smooth, their inner borders rounded, not compressed or elevated.

Coxae of third to sixth pairs of legs compressed and produced.

Gonopods of male as shown in figs. 4 and 5.

Length, about 31 mm.; width, 3 mm.

Locality.—Maricao Insular Forest.

Type.—One male taken September 25, 1948.

Microspirobolus toronus, new species

Description.—A much smaller form than the preceding, and lighter in its general color, which is light olive, darker in a caudal band or annulus. Antennae light brown, and the legs brick red. Anal scutum and valves black.

Head smooth. Median sulcus lightly impressed across vertex and deep down lower region as usual. Clypeal foveolae 3-3. Eyes well developed, composed of about 24 ocelli arranged in 5 transverse series.

Lower end of collum nearly straight or subtruncate; margining sulcus as usual.

The other tergites with an encircling furrow or culcus which is crossed by a series of short, rather coarse, longitudinal striae. The pore located midway between this sulcus and the caudal margin and lying upon a faint, pale encircling sutural line.

Anal scutum rounded behind, slightly exceeded by the valves which are smooth and evenly rounded, not at all compressed.

Coxae of third to sixth legs of male enlarged and compressed. Gonopods as shown in figs. 6 and 7.

Number of segments, 50.

Length, 24 mm.; width, 2 mm.

Locality.—Toro Negro.

Type.—One male, taken October 11, 1946, by J. A. Rivero and J. B. Ramos. Distinguished from other species by size, sculpturing of tergites, clypeal foveolae, and details of gonopods.

STEMMIULIDAE

Diopsiulus compressus (Karsch)

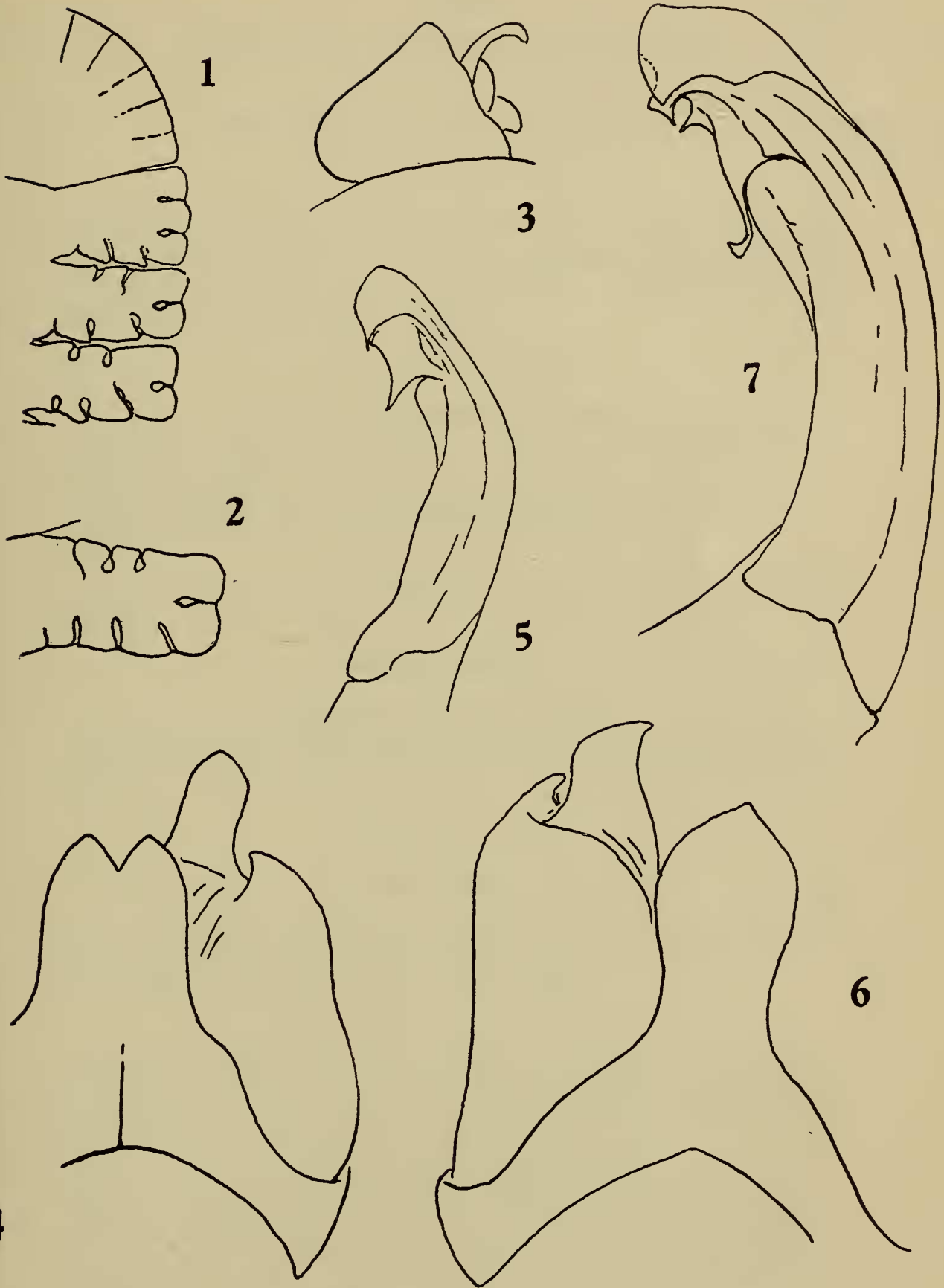
Stemmiulus compressus Karsch, 1881, Zeits. Naturwiss., ser. 3, vol. 6, p. 11; Pocock, 1894, Journ. Linn. Soc. London, p. 478.

Diopsiulus compressus Silvestri, 1908, Bull. Amer. Mus. Nat. Hist., vol. 24, p. 566, figs. II, 1-8.

Locality.—Toro Negro, Villalba. Several females taken by J. A. Rivero and J. B. Ramos.

Explanation of Figures

1. *Liomus albanus* n. sp. Right half of collum and right keels of tergites 2, 3 and 4.
2. *Liomus albanus* n. sp. Right keel of eighth segment.
3. *Liomus albanus* n. sp. Left gonopod, anterior view.
4. *Microspirobolus mediolus* n. sp. Right anterior gonopod. and sternite.
5. *Microspirobolus mediolus* n. sp. Posterior gonopod.
6. *Microspirobolus toronus* n. sp. Left anterior gonopod and sternite.
7. *Microspirobolus toronus* n. sp. Posterior gonopod.


1
2
3
4
5
6
7